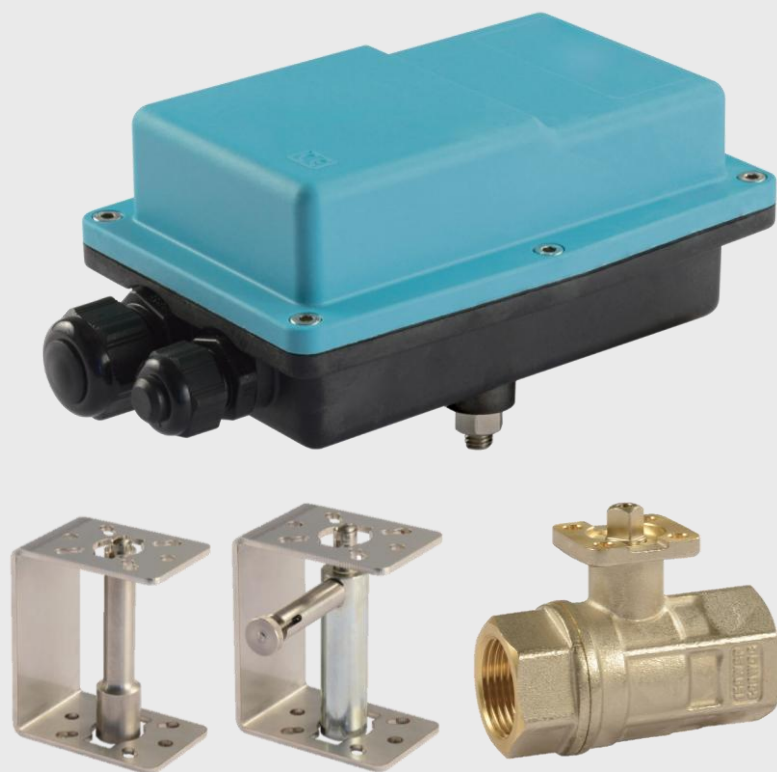


Motorized Ball Valve

- **All-in-one control system:** selectable 2-point or 3-point operation modes
- **Ingress protection rating of IP67:** Resistance to dust and water immersion
- **Standard inclusion of auxiliary opening/closing microswitches**
- **Manual override capability available**
- **Multiple voltage and timing options** for tailored system integration



About

The P399 is an IP67-rated rotary actuator designed for reliable and modular integration into fluid management and automation systems. With support for both ON/OFF and modulating control (2-point and 3-point), this actuator accommodates various valve configurations including 2-way, 3-way diverters, and 3-way mixers. Operating at voltages of 24V, 110V, or 230V (50/60 Hz), it features selectable rotation angles of 90° or 180° and customizable operating times ranging from 4 to 320 seconds. Engineered with durable glass-filled polyarylamide housing and AISI 303 stainless components, the Diamant PRO ensures robust performance in challenging industrial environments.

Applications

- ✓ Alternative energy systems
- ✓ Automation systems
- ✓ Heating and cooling systems (including glycol-based cooling)
- ✓ Open and closed hydraulic circuits
- ✓ Industrial fluid management systems (hot or cold)
- ✓ Water treatment processes
- ✓ Compressed air networks

Build Your Part Number

Series P399

Example: PX

Series

P399

Valve – select one

2-way valve (90° actuator)
3-way valve (180° actuator)

Operating Times - select one

Time	Nominal Torque	Input Power
4 sec (90° only)	5 Nm	13 VA
8 sec (180° only)	5 Nm	13 VA
12 sec (90° only)	11 Nm	13 VA
24 sec (180° only)	11 Nm	13 VA
35 sec (90° only) - standard	11 Nm	7.5 VA
70 sec (180° only) - standard	11 Nm	7.5 VA
106 sec (90° only)	11 Nm	7.5 VA
212 sec (180° only)	11 Nm	7.5 VA
320 sec (90° only)	11 Nm	7.5 VA
640 sec (180° only)	11 Nm	7.5 VA

Actuator to Valve Interface - select one

Direct mount with spacer and manual override
Direct mount with spacer
Direct mount
Top mount manual override (standard operating time only; see page 6 manual operation)

Heating Resistance– optional; only available on standard operating time

Heat Resistance Present
None

Ball Valve Size - select one

Inches	DN (mm)
G 1/4"	8
G 3/8"	10
G 1/2"	15
G 3/4"	20
G 1"	25
G 1 1/4"	32
G 1 1/2"	40
G 2"	50
G 2 1/2"	65
G 3"	80
G 4"	100
1/4" NPT	8
3/8" NPT	10
1/2" NPT	15
3/4" NPT	20
1" NPT	25
1 1/4" NPT	32
1 1/2" NPT	40
2" NPT	50
2 1/2" NPT	65
3" NPT	80
4" NPT	100

Supply Voltage - select one

24 VDC (50 / 60Hz)
24 VAC (50 / 60Hz)
110 / 120 VAC (50 / 60Hz)
230 / 240 VAC (50 / 60Hz)

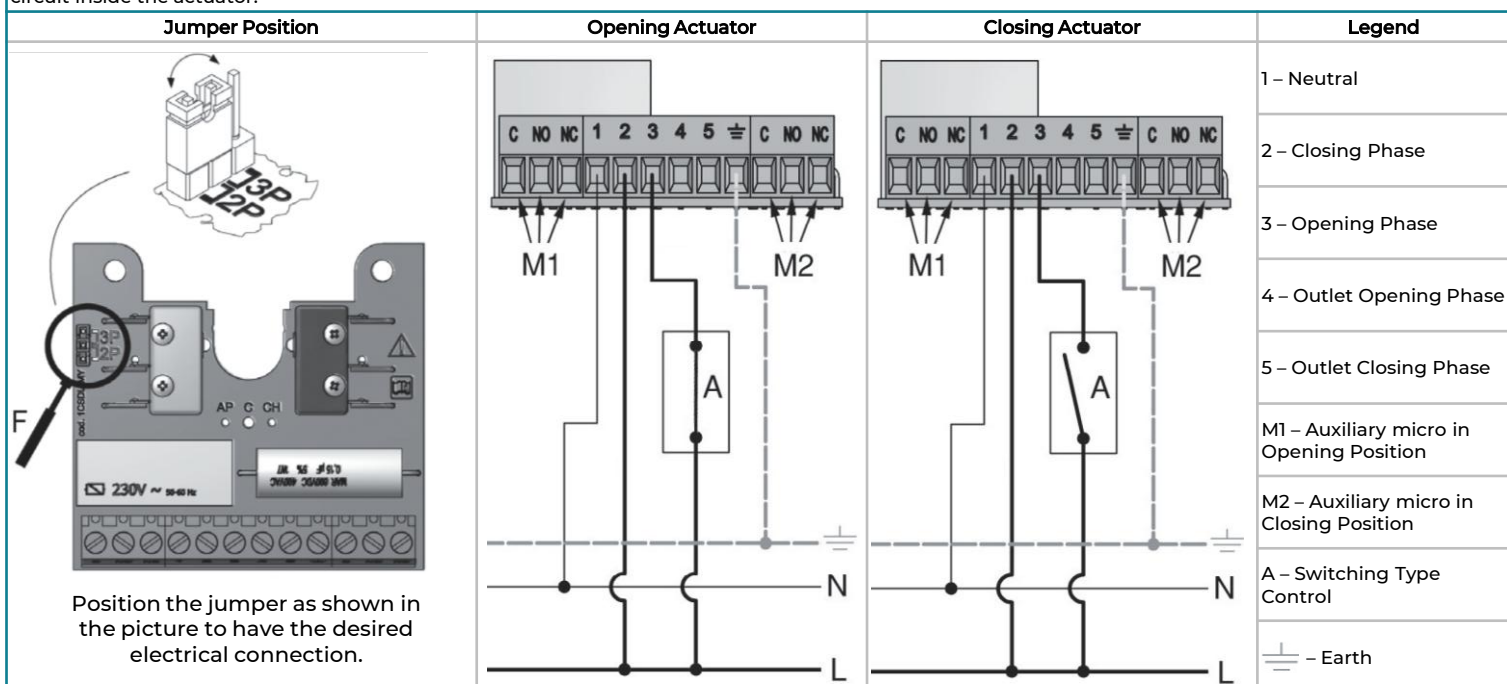
Technical Parameters

Technical Parameters

Electrical	Electrical Control	2-point and 3-point all-in-one
	Operation	Modulating – ON / OFF
	Electrical Connection	Internal Terminal Block
	Input Power	13 VA 7.5 VA
	Power output of the outlet phase to terminals 4 and 5	1 A, resistive
	Additional Micro Electrical Capacity	1 A, resistive
	Heating Resistance Power	3W
	Power Supply	230/240 VAC (50/60Hz) 110/120 VAC (50/60Hz) 24 VDC (50/60Hz) 24 VAC (50/60Hz)
Mechanical	Rotation	90° (2-way valve) 180° (3-way valve)
	Operating Times at 90° Rotation	4 sec, 12 sec, 35 sec, 106 sec, 320 sec
	Operating Times at 180° Rotation	8 sec, 24 sec, 70 sec, 212 sec, 640 sec
	Compatible Ball Valves	2-way 3-way diverter 3-way mixer
	Position Indicator	Arrow on the drive shaft
	Motor	Bidirectional Synchronous
	Nominal Torque	5 Nm 11 Nm
Environmental	Maximum Noise at 1 meter	35 dB(A) Standard
	Operational Room Temperature	14°F ... 122°F (-10°C ... 50°C)
	Fluid Min/Max Temperature	See Ball Valves
	Protection	IP67
Materials	External Covering	Glass-filled Polyarylamide Technopolymer
	External Metal Components	AISI 303 GVR
	Seals	Silicone

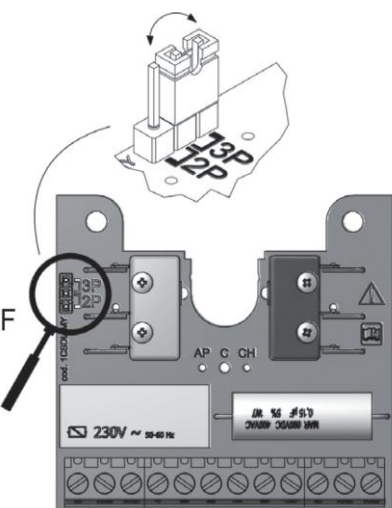
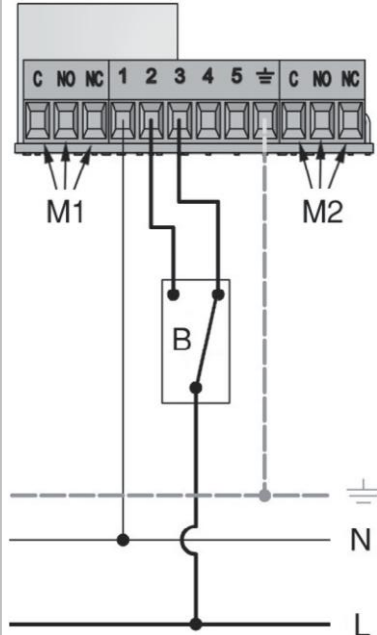
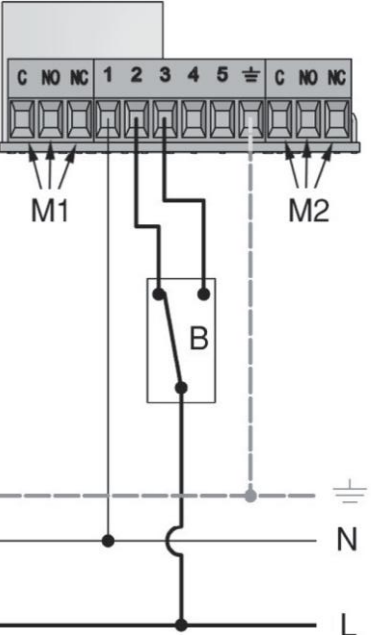
2-Point Control ON/OFF – One electric control can activate several actuators

With the electrical ALL IN ONE control, you can select the 2-POINT control or the 3-POINT control by moving the selector (jumper) mounted on the electrical circuit inside the actuator.

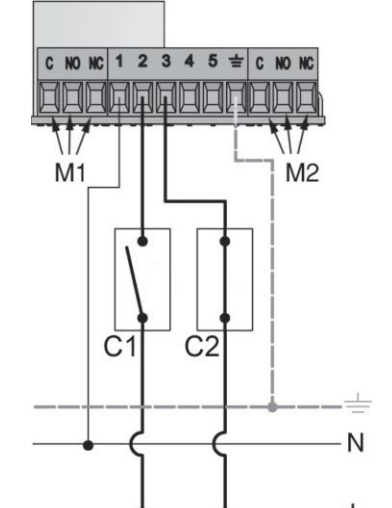
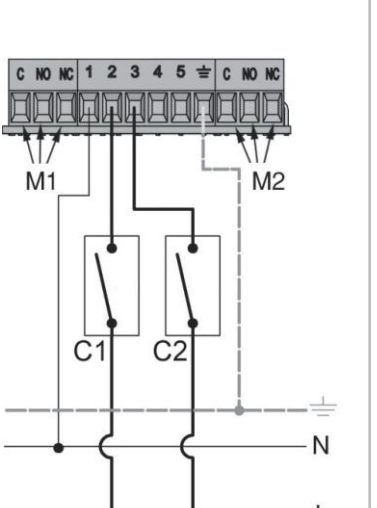
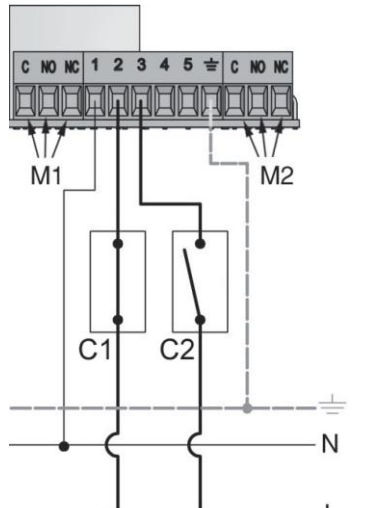


Technical Parameters

3-Point Control ON/OFF – Each actuator must be operated by a single electric control

Jumper Position	Opening Actuator	Closing Actuator	Legend
 Position the jumper as shown in the picture to have the desired electrical connection.			1 – Neutral
			2 – Closing Phase
			3 – Opening Phase
			4 – Outlet Opening Phase
			5 – Outlet Closing Phase
	M1 – Auxiliary micro in Opening Position		
	M2 – Auxiliary micro in Closing Position		
	A – Switching Type Control		
	⏏ – Earth		

3-Point Control MODULATING – Each actuator must be operated by a single electric control

Opening Actuator	Intermediate Position	Closing Actuator	Legend
 Position the jumper as shown in the picture to have the desired electrical connection.			1 – Neutral
			2 – Closing Phase
			3 – Opening Phase
			4 – Outlet Opening Phase
			5 – Outlet Closing Phase
	M1 – Auxiliary micro in Opening Position		
	M2 – Auxiliary micro in Closing Position		
	A – Switching Type Control		
	⏏ – Earth		
	C1 – Closing Control		
	C2 – Closing Control		

Technical Parameters

Auxiliary Microswitches

M1 Opening		M2 Closing	
Open Valve		Closed Valve	
Non-Open Valve		Non-Closed Valve	

Heating Resistance

The electrical connection of the internal heater is independent of the positioning control. The device features faston-type terminals and its voltage is the same as the power supply.



Electrical Connections

Connection of the Pump Stop with Two 3-point Actuator	
Connection of the Pump Stop with Two 2-point Actuator	
Connection of the Pump Stop with a 2-point Actuator and a 3-point Actuator	

Technical Parameters

Manual Operation

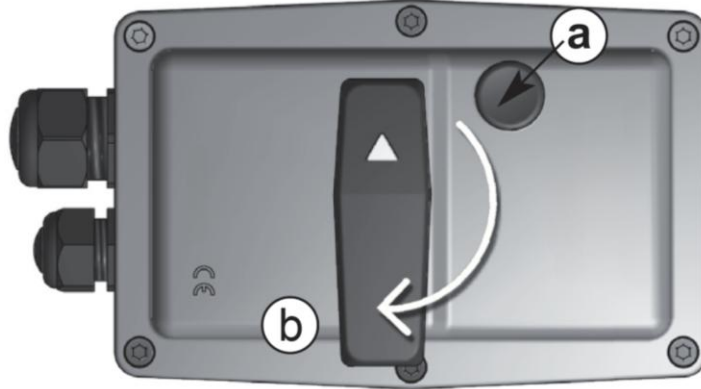
Actuator in OPENING position

Press the release button (a) and, simultaneously, rotate the lever (b) 90° COUNTERCLOCKWISE, in order to move the actuator in the CLOSING position.



Actuator in CLOSING position.

Press the release button (a) and, simultaneously, rotate the lever (b) 90° CLOCKWISE, in order to move the actuator in the OPENING position.

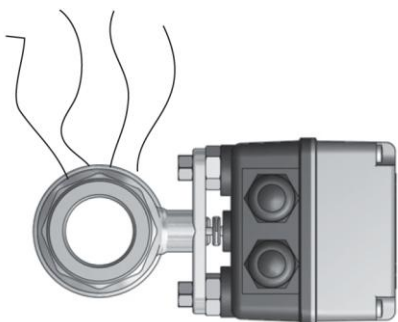


⚠ CAUTION! When you release the plunger, the actuator returns to the control position if it still powered and is able to perform the operation
CAUTION! Do not use high-pressure water directly on the actuator (e.g. a pressure washer)

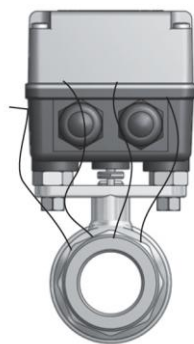
Installation Orientation

The valve shall not be installed with the actuator's connection facing downwards.

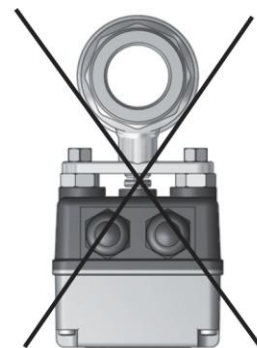
RECOMMENDED POSITION



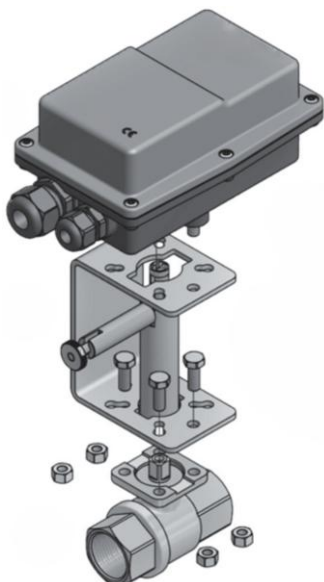
ALLOWED POSITION



FORBIDDEN POSITION

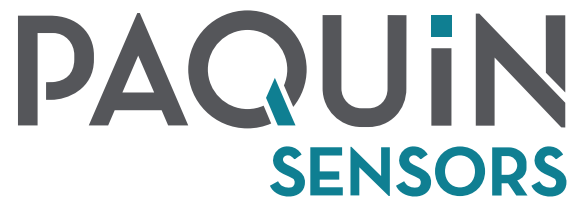


Connection to the Ball Valve with Spacer



The ball valves fitted with a spacer (both with direct rod and manual override) must be motorized, even if the ball valve has an ISO 5211 connection.

Additional Information



Paquin Sensors' product portfolio is designed to provide options to fit the most diverse range of specifications.

We collaborate with our customers to match the best product technologies with your unique application requirements.

Please [contact us](#) or call +1 (800) 831-8217 anytime to discuss your needs!